

## CLAIMS

1. A graphite electrode for an electric arc furnace used for steelmaking which is operated while cooling the graphite  
5 electrode which protrudes upward from the furnace roof by spraying a cooling liquid onto the surface of the graphite electrode, wherein an uneven surface structure is formed on the surface of the electrode.

10 2. The graphite electrode according to claim 1, wherein the uneven structure is a spiral groove.

3. The graphite electrode according to claim 1, wherein the uneven structure is a spiral groove, the spiral groove having  
15 a spiral angle  $\beta$  of  $45^\circ$  or more but less than  $90^\circ$ , a groove pitch P of 0.2 to 10 mm, and a groove depth h of 0.2 to 5 mm.